

**REMARKS**

This Application has been carefully reviewed in light of the Office Action dated March 28, 2008 ("*Office Action*"). Claims 1-47 are pending and rejected in the Application. Applicant amends Claims 1, 3, 4, 6, 20, 22, 23, 25, 29, 31, 32, 33, 38, and 40-47. Additionally, Applicant cancels Claims 2, 21, and 39 without prejudice or disclaimer. Applicant respectfully requests issuance of the remaining claims.

**Examiner's Use of Official Notice**

At the outset, Applicant respectfully notes that, in rejecting several of the claims of the present Application (including, at least, Claims 5, 6, 10, 16, and 17), the Examiner takes Official Notice of particular elements that the Examiner asserts are well-known. Applicant respectfully reminds the Examiner that "[i]t would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." M.P.E.P. § 2144.03(A). "For example, assertions of technical facts in the areas of esoteric technology or *specific knowledge of the prior art must always be supported by citation to some reference work* recognized as standard in the pertinent art." *Id.*, emphasis added. *See also In re Grose*, 592 F.2d 1161, 1167-68 (CCPA 1979); *In re Eynde*, 480 F.2d 1364, 1370 (CCPA 1973) ("[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.").

Applicant respectfully asserts that the facts the Examiner has attempted to establish by Official Notice represent statements of the Examiner's knowledge of what is allegedly prior art. As a result, the Examiner's use of such Official Notice is improper pursuant to M.P.E.P. § 2144.03(A), and any rejection relying on such Official Notice is legally deficient. Furthermore, Applicant respectfully requests that, if the Examiner intends to continue to rely on any form of Official Notice to reject any of the claims of this Application, the Examiner provide a signed affidavit attesting to the subject matter of the Examiner's Official Notice as required by M.P.E.P. § 2144.03.

**Claim Rejections Under 35 U.S.C. §101**

The Examiner rejects Claims 20-28 and 38-46 under 35 U.S.C. §101 as being directed towards non-statutory subject matter.

Claims 20-28 claim a context manager for handling migration of packet processing. The Examiner asserts that the context manager may only be implemented as software. Office Action, p. 2. Nonetheless, the portion of the specification cited by the Examiner provides only that “[i]n some embodiments, the context manager 14 **may** be implemented as software executing on one or more of the processors 12.” **emphasis added**, specification, p. 21. As illustrated in FIGURE 2 and described on pages 21-24 of the specification, the claimed “context manager” is not limited only to embodiments that are comprised solely of software or that are implemented solely in software. Claims 20-28 are thus allowable for at least these reasons. Thus, Independent Claim 20 and all claims depending therefrom are directed towards statutory subject matter. Applicant respectfully requests reconsideration and allowance of Claims 20-28.

Independent Claim 38 recites “[a] computer readable medium comprising logic for handling migration of packet processing, the logic operable when executed to . . . .” Pursuant to MPEP 2106.01:

[A] claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized and is thus statutory.

Thus, Independent Claim 38 and all claims depending therefrom are directed towards statutory subject matter. For at least these reasons, Applicant respectfully submits that Claims 38-46 comply with 35 U.S.C. §101. Applicant respectfully requests reconsideration and allowance of Claims 38-46.

**Claim Rejections Under 35 U.S.C. §103**

Claims 1-6, 9-11, 13-25, 27, 29-33, 35, 37-42, 44, 46 and 47 are rejected in the Office Action under 35 U.S.C. § 103(a) as being unpatentable over US Patent Application No. 2003/0069920 to Melvin et al. (“*Melvin*”) in view of U.S. Patent No. 6,684,395 to Johnson et al. (“*Johnson*”). Applicant respectfully traverses these rejections. For purposes of advancing

prosecution, however, Applicant amends Claims 1, 3, 4, 6, 20, 22, 23, 25, 29, 31, 32, 33, 38, 40, 41, 42, and 47.

As amended, Claim 1 recites:

A system for packet processing, the system comprising:  
a shared memory maintaining a plurality of code partitions, the code partitions together implementing a feature set for packet processing;  
a plurality of processors each comprising a processor core and an instruction memory loaded with at least one of the code partitions from the shared memory, the processor core operable to execute the loaded code partition to perform processing of packets and to generate migration requests for transferring packet processing operations from the loaded code partition;  
a context manager operable to receive a migration request from one of the loaded code partitions executing within one of the processor cores, the migration request comprising packet context information and identifying a target one of the code partitions, the context manager further operable, in response to the migration request, to determine whether one of the processors having the target code partition loaded is available for processing and, if so, to communicate the packet context to the available one of the processors;  
wherein the context manager maintains a plurality of queues each corresponding to one of the code partitions, the context manager further operable, in response to the migration request, to place migration data comprising the packet context information into the queue associated with the target code partition, to monitor the queue associated with the target code partition, and upon determining that one of the processors having the target code partition loaded is available for processing, to communicate the packet context information to the available one of the processors.

*Melvin* and *Johnson*, both alone and in combination, fail to disclose, teach, or suggest every element of amended Claim 1 for at least several reasons. First, the proposed *Melvin-Johnson* combination fails to disclose “a context manager operable, in response to the migration request, to determine whether one of the processors having the target code partition loaded is available for processing.” Second, the proposed *Melvin-Johnson* combination fails to disclose a context manager that “maintains a plurality of queues each corresponding to one of the code partitions.” Third, the proposed *Melvin-Johnson* combination fails to disclose a context manager operable to “place migration data comprising the packet context information into the queue associated with the target code partition.” Thus, as discussed in further detail below, the proposed *Melvin-Johnson* combination fails to disclose every element of amended Claim 1.

At the outset, Applicant respectfully notes that the Examiner at various points equates the “tribes” described by *Melvin* with the “plurality of processors” (e.g., “a plurality of

processors (i.e. tribes),” Office Action, P. 3) and at other points with the claimed “target code partition” (e.g., “. . . from one of the loaded code partitions (i.e. tribe),” Office Action, P. 4). Applicant respectfully reminds the Examiner that “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” M.P.E.P. § 2143.03 (citing *In re Wilson*, 424 F.2d 1382, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970)). As a result, the Examiner cannot conflate these two elements when comparing the claimed subject matter to the cited references.

Turning to the specific deficiencies of the rejection, first, the proposed *Melvin-Johnson* combination fails to disclose “a context manager operable, in response to the migration request, to determine whether one of the processors having the target code partition loaded is available for processing.” In addressing this element, the Examiner cites to a portion of *Melvin* that states that:

A round-robin prioritizing scheme is used in an embodiment. There are two stages. The first stage selects one non-busy source for a given non-busy destination. The second stage resolves cases where the same source was selected for multiple destinations.

*Melvin*, ¶ 0632, emphasis added.

Thus, the cited portion discloses selecting a source for a specific non-busy destination. The cited portion does not disclose, “determin[ing] whether one of the processors having the target code partition loaded is available for processing” (emphasis added) as required by Claim 1. As a result, the proposed *Melvin-Johnson* combination fails to disclose “a context manager operable, in response to the migration request, to determine whether one of the processors having the target code partition loaded is available for processing.”

Second, the proposed *Melvin-Johnson* combination fails to disclose a context manager that “maintains a plurality of queues each corresponding to one of the code partitions.” In addressing similar limitations of original Claim 2, the Examiner asserts that “*Melvin* discloses placing migration data into a queue associated with a particular code partition (i.e., tribe).” Office Action, P. 5. By the Examiner’s own characterization, however, the “tribes” disclosed by *Melvin* represent processor stages, not “code partitions.” *Melvin*, Paragraph 0070; see also Office Action, P. 3. Thus, *Melvin* does not disclose a context manager that “maintains a plurality of queues each corresponding to one of the code partitions.”

Third, the proposed *Melvin-Johnson* combination also fails to disclose a context manager operable to “place migration data comprising the packet context information into the

queue associated with the target code partition.” In addressing similar limitations of original Claim 2, the Examiner asserts that *Melvin* discloses an ability “to communicate the packet context information to the [sic] available one of the processors (i.e. receive requests from all different sources and put them into respective FIFOs).” Office Action, P. 5. As previously noted, however, the “tribes” disclosed by *Melvin* represent processor stages, not “code partitions.” *Melvin*, Paragraph 0070; see also Office Action, P. 3. Thus, *Melvin* does not disclose queues “associated with the target code partition.” Consequently, *Melvin* does not disclose a context manager operable to “place migration data comprising the packet context information into the queue associated with the target code partition” (emphasis added) as required by amended Claim 1.

As a result, the proposed *Melvin-Johnson* combination fails to disclose, teach, or suggest every element of amended Claim 1. Claim 1 is thus allowable for at least these reasons. Applicant respectfully requests reconsideration and allowance of Claim 1 and its dependents.

Additionally, many of the dependents of Claim 1 include other elements that are also not disclosed in the cited references. For example, Claim 13 recites:

The system of Claim 1, wherein the migration request further identifies one of a plurality of entry points within the targeted code partition.

*Melvin* and *Johnson* both fail to disclose every element of Claim 13. The Examiner asserts that *Melvin* “discloses identifying an entry point using a program-counter offset from the beginning of the targeted code partition using an index into a table entry (i.e., transfer a program counter to a particular tribe).” Office Action, P. 7. However, the Examiner concedes that *Melvin* fails to disclose a code partition. Office Action, P. 4. For at least this reason, *Melvin* cannot teach identifying an entry point with a targeted code partition. Moreover, to the extent that *Melvin* may disclose an index into a table entry associated with a particular tribe, an index to a table entry associated with a tribe is not an entry point within a targeted code partition. Thus, for at least these additional reasons, Claim 13 is allowable. As noted above, Applicant respectfully requests reconsideration and allowance of Claim 13.

Although of differing scope from Claim 1, Claims 20, 29, 38, and 47 include elements that, for reasons substantially similar to those discussed above with respect to Claim 1, are not disclosed, taught, or suggested by the cited references. Claims 1, 20, 29, 38, and 47 are

thus allowable for at least these reasons. Applicant respectfully requests reconsideration and allowance of Claims 1, 20, 29, 38, 47 and their respective dependents.

Claims 7, 8, 12, 26, 28, 34, 36, and 45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Melvin* and *Johnson* in view of U.S. Patent No. 7,340,535 to Alam (“*Alam*”). Claims 7, 8, and 12 depend from Claim 1. Claims 26 and 28 depend from Claim 20. Claims 34 and 36 depend from Claim 29. Claim 45 depends from Claim 38. Claims 1, 20, 29, and 38 have all been shown above to be allowable. Claims 7, 8, 12, 26, 28, 34, 36, and 45 are thus allowable for at least these reasons. Applicant respectfully requests reconsideration and allowance of Claims 7, 8, 12, 26, 28, 34, 36, and 45.


**CONCLUSION**

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending Claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicant stands ready to conduct such a conference at the convenience of the Examiner.

No fees are believed to be due, however, the Commissioner is hereby authorized to charge any fees or to credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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